

80015

CRUISE REPORT

WHITEFOOT (WF 80-2)

June 23 - 26, 1980

David C. Twichell
U.S. Geological Survey
Woods Hole, MA 02543

July 2, 1980

Vessel: WHITEFOOT, Cruise WF 80-2

Area of Operations: Georges Bank

Dates: Depart Woods Hole 1825 (EDT) 23 June 1980
Arrive Woods Hole 1300 (EDT) 26 June 1980

Personnel: Roy Cambell, Captain
David Twichell, Chief Scientist, USGS
Bradford Butman, USGS
Gerard McCarthy, USGS

Equipment: Navigation: Northstar Loran-C
ATNAV acoustic transponder navigation system
Seismics: Klein side-scan sonar
ORE 3.5-kHz echo sounder

Objectives:

The WHITEFOOT 80-2 cruise was the first of three cruises to be conducted within the next year to monitor the migration rates of sand waves within a 1.5 x 1.5 km area on Georges Bank. During this cruise three acoustic transponders were deployed and surveyed in to define their positions relative to each other. After establishing the navigation grid, a side-scan sonar and 3.5-kHz echo-sounding survey was completed to define the location and size of the sand waves. At the end of the survey one transponder was recovered while the other two, which are marked by surface buoys, were left to serve as fixed references for the navigation nets of the next two surveys.

Narrative:

23 June 1825 (EDT)	Depart Woods Hole.
24 June 0850	Arrive at survey area on Georges Bank.
0958	Deploy first transponder (near eastern surface buoy).
1037	Deploy second transponder (near western surface buoy).
1135	Deploy third transponder (north of the other two).
1235	Start surveying in the transponder net.
25 June 0000	Complete surveying in the transponder net. Heave to for the night.
0740	Deploy 3.5 kHz fish and side-scan fish.
0809	Start the bathymetry and side-scan survey.
1844	Complete the bathymetry and side-scan survey.
1937	Recover northern transponder.
2045	Finish disabling the other two transponders and get underway for Woods Hole.
26 June 1300	Arrive Woods Hole.

Tabulated Information:

a. Days at sea: 4

b. Instruments Deployed:

Transponder #	Latitude	Longitude
6027	41°08.48	68°02.65
6022	41°08.63	68°02.40
6024	41°09.00	68°02.85

(Locations based on 9960 Loran-C chain)

c. Instrument Recovered:

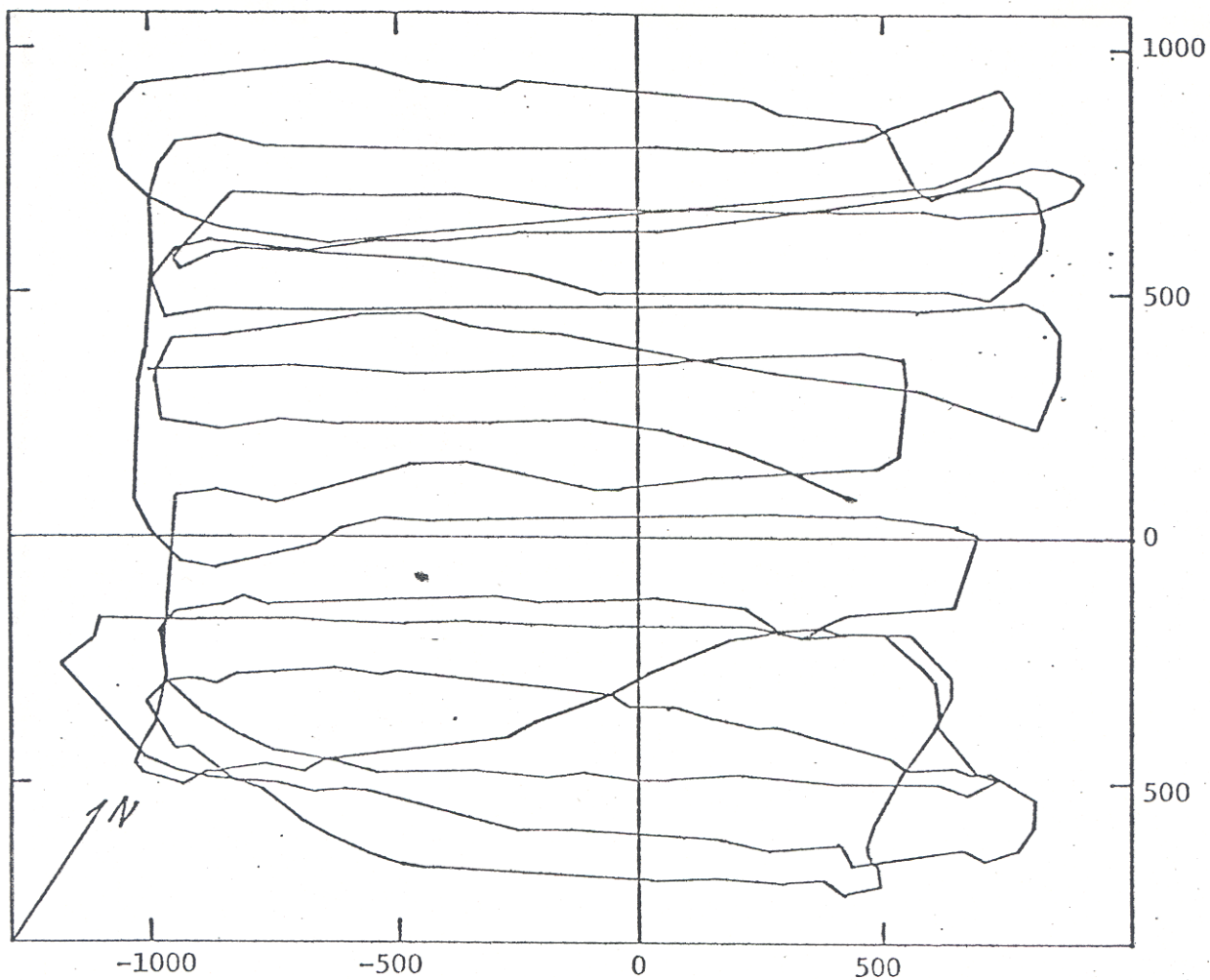
Transponder #	Latitude	Longitude
6024	41°09.00	68°02.85

d. Seismic Survey:

Equipment	Latitude	Longitude
Deploy 3.5 kHz and side-scan	41°09.90	68°02.77
Recover 3.5 kHz and side-scan	41°08.33	68°02.16

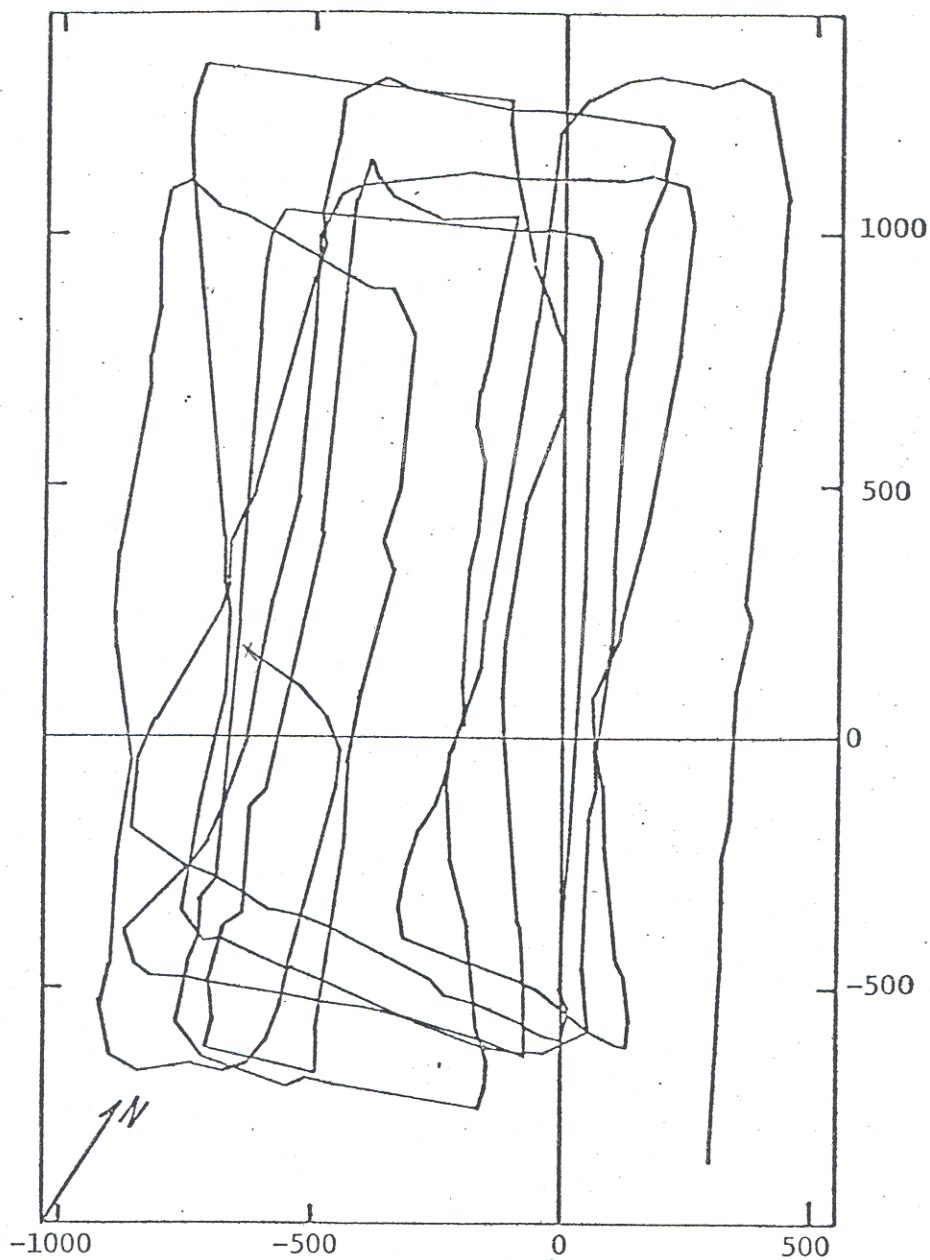
e. Amount of Side-scan and 3.5 kHz Data Collected:

System	Time Spent	Km of Data Collected
3.5 kHz	11 hrs, 28 min	52
Side-scan	11 hrs, 28 min	52



WHITEFOOT 80-2 ACOUSTIC TRANSPONDER NAVIGATION

25 June, 1980 0808-1351 EDT. Lines run approximately NE-SW. Grid around the border is in 500 m increments, origin is approximately at $41^{\circ}08.63\text{N}$, $68^{\circ}02.40\text{W}$, and north is shown by arrow in lower left corner of figure.



WHITEFOOT 80-2 ACOUSTIC TRANSPONDER NAVIGATION
25 June, 1980 1408-1846 EDT. Lines run approximately
NW-SE. Grid around border is in 500 m increments,
origin is approximately at $41^{\circ}08.63\text{N}$, $68^{\circ}02.40\text{W}$, and
north is shown by arrow in lower left corner of figure.